

DetraPel

Customer Spotlight



KEY FACTS

Customer

- DetraPel

Location

- Framingham, MA

Equipment

- HI931
Automatic Potentiometric Titrator

Innovation from the Start

DetraPel's chief mission since its inception in 2013 has been to create non-toxic, protective coatings for consumer and industrial applications alike. The Massachusetts-based cleantech company has remained focused in its development of safe protective coatings. DetraPel has formulated liquid repellent applications to help protect against damage from spills and stains and to prolong the life of various items - all without the use of harmful per- and polyfluoroalkyl substances (PFAS). In 2018, their founder, David Zamarin, landed a spot on ABC's Shark Tank and secured 4 out of 5 on-air offers for DetraPel's stain protector spray. Their focus remained on formulating protective sprays until COVID-19 hit in early 2020. At that time, DetraPel quickly shifted efforts to develop and launch a hand sanitizer and surface spray disinfectant.



Moving on from Manual Titration

As an EPA-registered product, DetraPel is required to make and label their sanitizers and disinfectants with a specific percentage of active disinfecting ingredients, commonly referred to as "percent actives." The percent active of each product relates to its efficacy in real-world applications.

To measure the percent actives in their products, DetraPel was performing manual titrations with a color-change indicator. These titrations proved to be time-consuming, taking close to

ACTIVE INGREDIENTS:	
11-Alkyl (60% C ₁₄ , 30% C ₁₅ , 5% C ₁₂ , 5% C ₁₃)	
Dimethyl Benzyl Ammonium Chlorides	0.105%
Alkyl (68% C ₁₂ , 32% C ₁₄) Dimethyl	
Ethylbenzyl Ammonium Chlorides	0.105%
INERT INGREDIENTS	99.790%
TOTAL	100.00%

1 hour to run 3 to 4 samples and calculating the average. With such long wait times for results, they found it ineffective to make adjustments to their production process. Moreover, they realized the subjectivity of results between different lab technicians was causing them to run more manual titrations just to confirm the results. With DetraPel's production line filling (6) 200 mL bottles every 10 seconds, they could not afford to keep testing with manual titrations.

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Simple is Better

It was late in 2020 that DetraPel reached out to Hanna Instruments to learn more about our Automatic Titrators. After speaking with our Sales and Applications Engineers, they decided to equip their lab with Hanna's Automatic Potentiometric Titrator (HI931). Rather than having their lab technicians manually fill a burette, dose titrant, carefully try to detect a slight color change in the sample, and perform calculations by hand, they were now able to simply press a button to perform their titration. With Hanna's titrator, DetraPel was able to automatically dose increasingly smaller volumes of titrant, use a nitrate ion selective electrode to objectively detect the titration endpoint, and automatically calculate the percent active in each sample. Now instead of waiting 1 hour for test results, DetraPel is able to get more accurate results in a matter of minutes.

“If something is off with the percent active results, we can take the sample to our laboratory, do a quick adjustment, and re-test it... you can literally make decisions very quickly.”

– Juan Jarufe, Chief R&D Officer

Juan Jarufe, DetraPel's Chief R&D Officer, is very happy with Hanna's Automatic Titrator. It has been easy for the lab technicians to use and was well-priced amongst other manufacturers. He is most satisfied with the speed and reliability of the equipment. Juan notes that the production process has not been sacrificed and can maintain its momentum, explaining, "If something is off with the percent active results, we can take the sample to our laboratory, do a quick adjustment, and re-test it. You can make decisions very quickly." In addition to the dependable equipment, the team at DetraPel has been impressed with Hanna's customer service and quick response times. Opting to have one of Hanna's Applications Engineers onsite to install the titrator, they were able to get direct training and an optimized method installed for their samples. Now, DetraPel is another confident user of Hanna's Automatic Titrators. Hanna's titration equipment and support provided DetraPel with a complete solution to meet their testing needs. ■

